# The Delightful Domesticated American Blueberry: Some Research Challenges For Its Next 100 Years

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Featured in many garden catalogs and magazines this spring, Pink Lemonade was developed as part of ARS's blueberry breeding program at Chatsworth, New Jersey.

**As their millions of fans around the country will happily tell you, America's blueberries are delicious and good for you.**

There are many unseen steps in the journey of this popular berry as it makes its way from growers' fields to you. For every major region in which commercial blueberries are grown, Agricultural Research Service blueberry researchers provide new scientific findings to help smooth this journey.

Blueberry growers everywhere need highly productive kinds of blueberries to plant; safe, effective ways to protect the plants from insects and diseases; and efficient, environmentally responsible ways to apply water and fertilizer so that their blueberry bushes—and the environment—will prosper. Consumers need readily available, affordably priced blueberries, plus evidence-based data about the true nutritional benefits of this much-loved fruit. At labs from coast to coast, ARS scientists are addressing all of these needs.

The remarkable story of the domesticated American blueberry began 100 years ago with the pioneering work of U.S. Department of Agriculture botanist Frederick Coville. His research led to the blueberry's domestication and to several blueberry varieties still popular today. We have built on and expanded his work and today have scientists working in Chatsworth, New Jersey; Poplarville, Mississippi; and Corvallis, Oregon, to develop new blueberry varieties that will thrive in these regions.

Our blueberry genebank in Corvallis and our blueberry genomics research there and in Chatsworth and in Beltsville, Maryland, provide tools and resources to quickly and accurately locate and move highly desirable traits, such as disease resistance, from blueberry's wild relatives into superior new blueberries that have the characteristics growers and consumers prefer.

When exciting new blueberries are developed, that progress brings a renewed need for scientifically sound, effective, and affordable management strategies for producing them.

We're on the job.

In Corvallis, for example, our 6-year-long investigation of various methods for irrigating blueberries, and for scheduling those irrigations, has identified practices that not only maximize yield and berry quality, but also conserve water and fertilizer. Plans call for publication of this practical, thoroughly researched information in an up-to-date irrigation guide for blueberry growers of the Pacific Northwest.

There's another important dimension to our blueberry research. Preliminary investigations into the potential role of blueberries in helping protect against a number of human health problems are under way in Albany, California; Beltsville, Maryland; Boston, Massachusetts; Little Rock, Arkansas; and Oxford, Mississippi. Our research on the role of blueberries in human nutrition is still very preliminary since it has, for the most part, been based on results from studies that used lab animals, cultured cells, or both. Follow-up studies with humans are of course needed before we can make definitive statements about blueberries' effects.

In the meantime, keep eating blueberries! Besides tasting good, they fit in well with the advice to "eat five a day." Blueberries supply many nutrients, such as vitamins, and many lesser-known compounds—called "phytochemicals"—that do not have a specified nutritional role but may be involved in a host of different, and important, functions.

The worldwide epidemic of obesity makes eating fruit especially important. Nutritionists agree that, in the United States, we eat too much sugar and fat and too many calories. Nutritionists also agree that we can help fix this problem by eating more whole fruits—and vegetables, too.

If our ongoing nutrition research is confirmed in humans, blueberries may indeed be shown to provide protection against some common health problems.

In the future, it may be possible to integrate what we learn about blueberries' nutritional benefits with what we discover about their production, making tomorrow's berries better than ever on both fronts. That would benefit both our health and the economic well-being of the growers who make it possible for us to enjoy this delightful fruit.

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